CLAIMS

What is claimed is:

1. A method for forming an adhesion between dielectric layers, the method comprising:

providing a first dielectric layer; and

in-situ forming a second dielectric layer having a first portion on said first dielectric layer and a second portion on said first portion, wherein said first portion has a first dielectric constant higher than said second portion has.

2. The method according to claim 1, wherein said first dielectric layer has a second dielectric constant which is higher than said second portion.

3. The method according to claim 1, wherein the in-situ forming step having at least a process condition for forming said first portion and said second portion.

4. The method according to claim 3, wherein the in-situ forming step having said process condition comprises:

executing a chemical vapor deposition having a first bias; and

executing said chemical vapor deposition having a second bias, wherein said first bias is higher than said second bias.

5. The method according to claim 3, wherein the in-situ forming step having said process condition comprises:

executing a chemical vapor deposition having a first HFRF for forming said first portion; and

executing said chemical vapor deposition having a second HFRF, wherein said first HFRF is higher than said second HFRF.

6. The method according to claim 3, wherein the in-situ forming step having said process condition comprises:

executing a chemical vapor deposition having a first precursor for forming said first portion; and

executing said chemical vapor deposition having a second precursor, wherein the amount of said first precursor is less than the amount of said second precursor.

7. The method according to claim 1, wherein the in-situ forming step comprises plasma enhanced chemical vapor deposition (PECVD).

8. A method for forming an adhesion between dielectric layers, the method comprising:

providing a first dielectric layer; and

in-situ forming a second dielectric layer having a first portion on said first dielectric layer and a second portion on said first portion, wherein said first portion has a hardness higher than said second portion has.

9. The method according to claim 8, wherein said first dielectric layer has a dielectric constant which is higher than said second dielectric layer.

10. The method according to claim 8, wherein the in-situ forming step at least comprises:

executing a chemical vapor deposition having a first bias for forming said first portion; and

executing said chemical vapor deposition having a second bias for forming said second portion, wherein said first bias is higher than said second bias.

11. The method according to claim 8, wherein the in-situ forming step at least comprises:

executing a chemical vapor deposition having a first HFRF for forming said first portion; and

executing said chemical vapor deposition having a second HFRF for forming said second portion, wherein said first bias is higher than said second bias.

12. The method according to claim 8, wherein the in-situ forming step at least comprises:

executing a chemical vapor deposition having a first precursor for forming said first portion; and

executing said chemical vapor deposition having a second precursor for forming said second portion, wherein said first bias is higher than said second bias.

13. The method according to claim 1, wherein the in-situ forming step comprises:

executing a chemical vapor deposition having a first process condition; and

executing said chemical vapor deposition having a second process condition, wherein said second process condition forming said second portion having a dielectric constant smaller than said first process condition forming said first portion.

14. The method according to claim 13, wherein said executing said chemical vapor deposition is plasma enhanced chemical vapor deposition (PECVD).

15. An structure of enhanced-inter-adhesion dielectric layers, the structure comprising:

a first dielectric layer; and

a second dielectric layer having a first portion on said first dielectric layer and a second portion on said first portion, wherein said first portion has a first dielectric constant around 2.8 to 3.5 higher than said second portion.

16. The structure according to claim 15, wherein said first dielectric layer is silicon nitride (SiN).

17. The structure according to claim 15, wherein said first dielectric layer is silicon carbide (SiC).

18. The structure according to claim 15, wherein said second portion has a second dielectric constant around 1.1 to 3.